

S&MA Involvement by Mission Phase



NASA ELV PAYLOAD SAFETY & MISSION SUCCESS CONFERENCE

Heidi Schultz

(805) 606-0193

Heidi.r.schultz@nasa.gov

November 16-18, 2004

Santa Barbara, California

S&MA Involvement – Processing



- NASA missions
 - SELVS
 - MELVS
- NASA facilities
 - KSC - FL
 - KSC - VAFB

NASA SELVS



VAFB – ORBITAL SCIENCES CORP

– MISSION ASSURANCE

- OVERSIGHT OF QUALITY ISSUES
- ASSURANCE OF FLIGHT READINESS

– SAFETY

- INSIGHT OF SAFETY ISSUES
- 30th SPACE WING AUTHORITY FOR SAFETY

NASA MELVS



VAFB

- THE BOEING COMPANY
- LOCKHEED MARTIN
- MISSION ASSURANCE
 - OVERSIGHT
- SAFETY
 - OVERSIGHT/RESOURCE PROTECTION

OCCUPATIONAL SAFETY & HEALTH

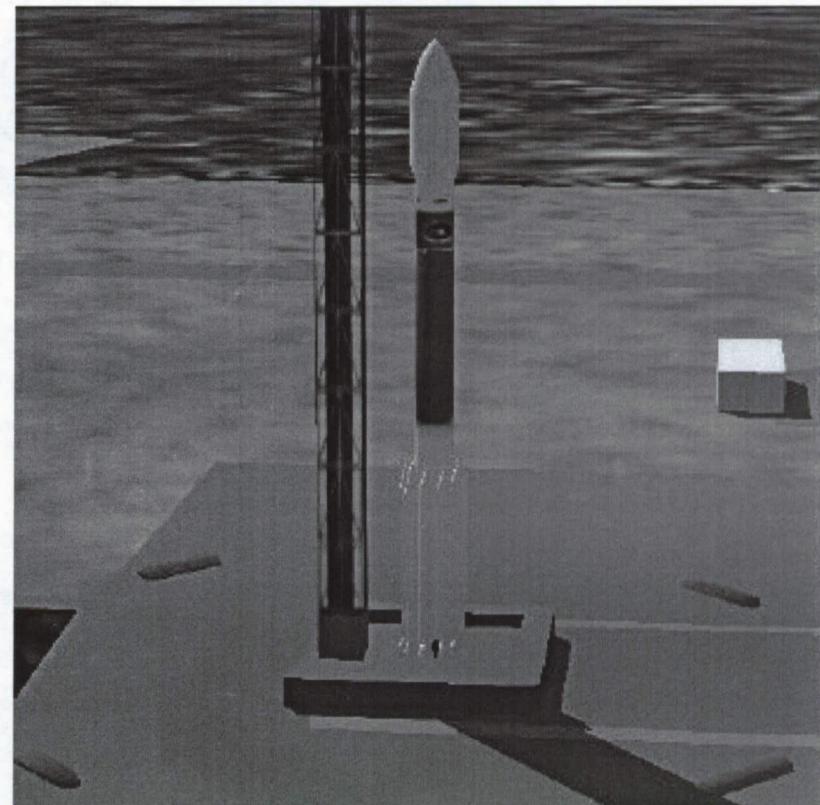


- Flight hardware
 - Design & operational specifications
 - Documentation for integration
- Hazards and risk evaluation
 - Surveillance
 - Inspection

FLIGHT HARDWARE



- Spacecraft
- First, inter, and second stages
- Solid Rocket Motors (SRMs)
- Payload fairing



HAZARD & RISK EVALUATION



- Surveillance
 - Hazardous operations
 - Probability versus Severity
- Inspections
 - Personal Protective Equipment
 - Programs
 - Documentation

SPACECRAFT

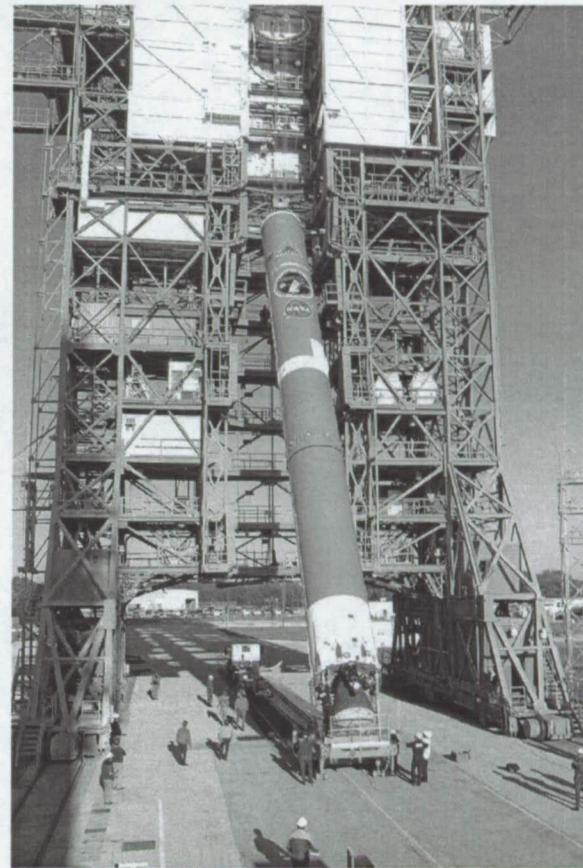


- Hoisting
- Ordnance
- Fueling
- Pressurization
- Transport
- Integrate

FIRST STAGE



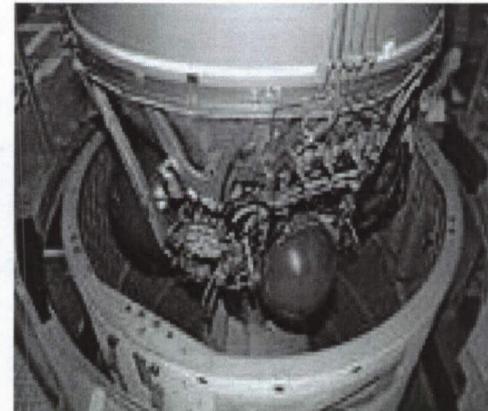
- Hoisting
- Transport
- Ordnance
- Pressurization
- Integrate
- Fueling



INTERSTAGE



- Hoisting
- Ordnance
- Transport
- Integrate



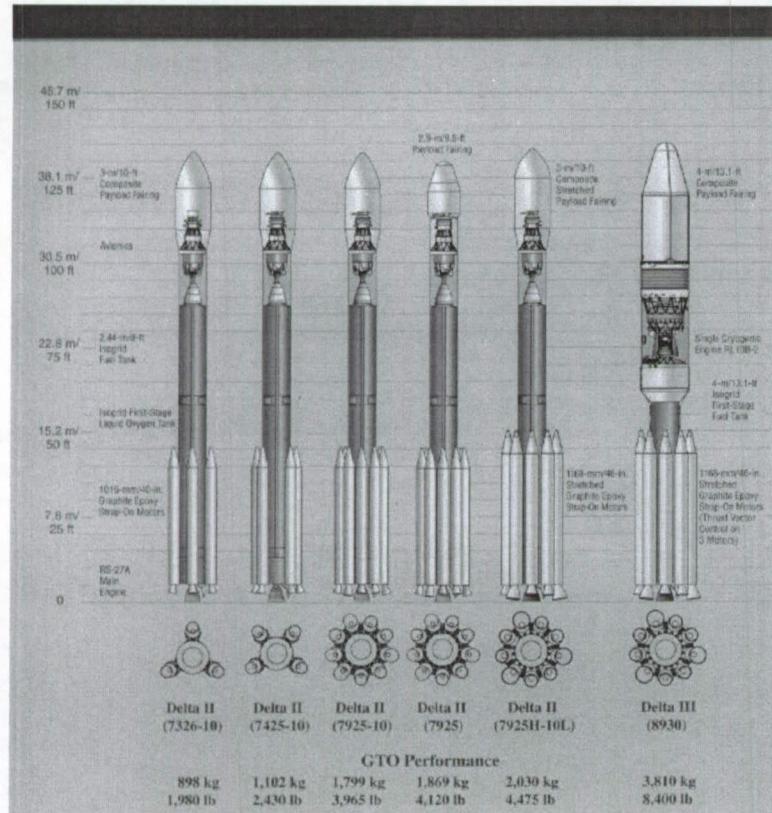
SECOND STAGE



- Hoisting
- Transport
- Pressurization
- Ordnance
- Integrate
- Fueling

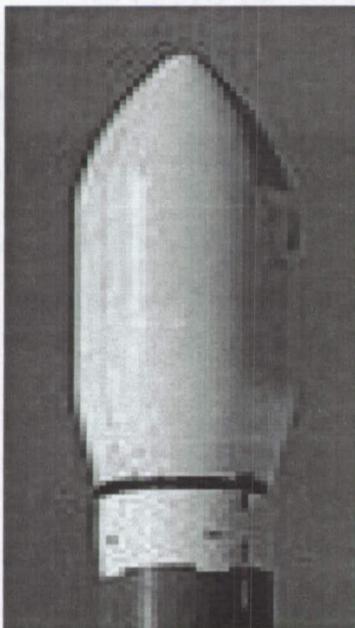


SOLID ROCKET MOTORS

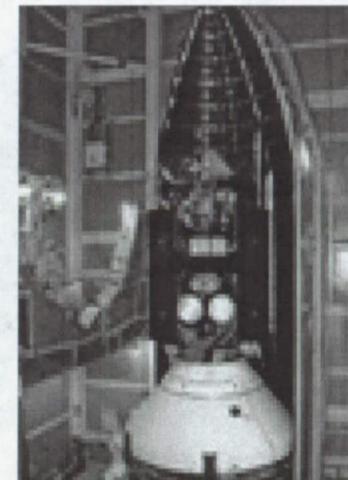


- Hoisting
- Pressurization
- Ordnance
- Transport
- Integrate

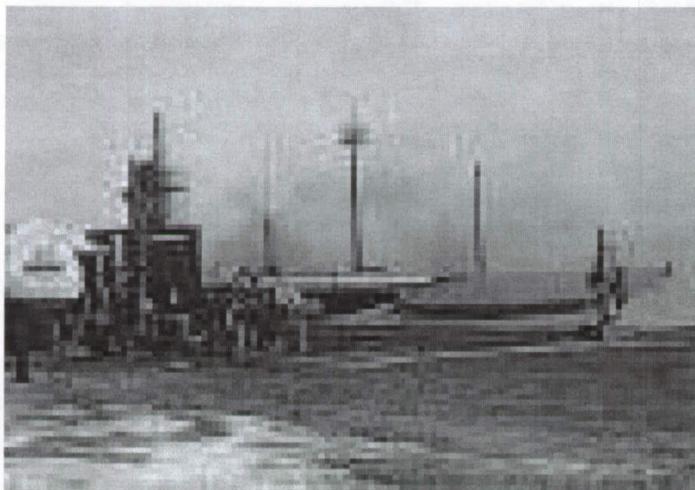
PAYLOAD FAIRING



- Hoisting
- Ordnance
- Cleanliness
- Transport
- Integrate



PROPULSION



- Pressurization
- Propellants
 - Liquid
 - Solid
- Cryogenics
- Integrate

MECHANICAL



- Hoisting
- Transport
- Ordnance
- Integrate

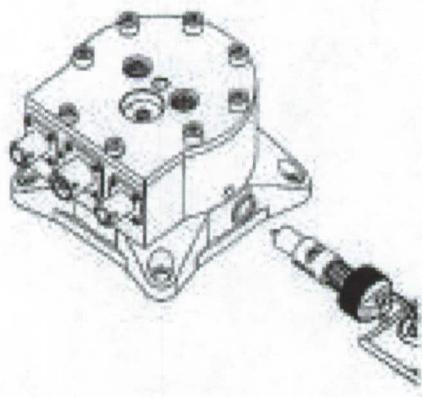


ELECTRICAL & FACILITIES



Electrical

- Ordnance
- Integrate



Facilities

- Ground Support Equipment
 - Vapor Detection System
 - Breathing Air
- Cranes
- Integrate

ACCIDENTS



Mishaps

- Investigate any incident or accident in assigned areas
- Determine cause
- Implement safety measures/recommendations as required

INSTITUTIONAL SAFETY

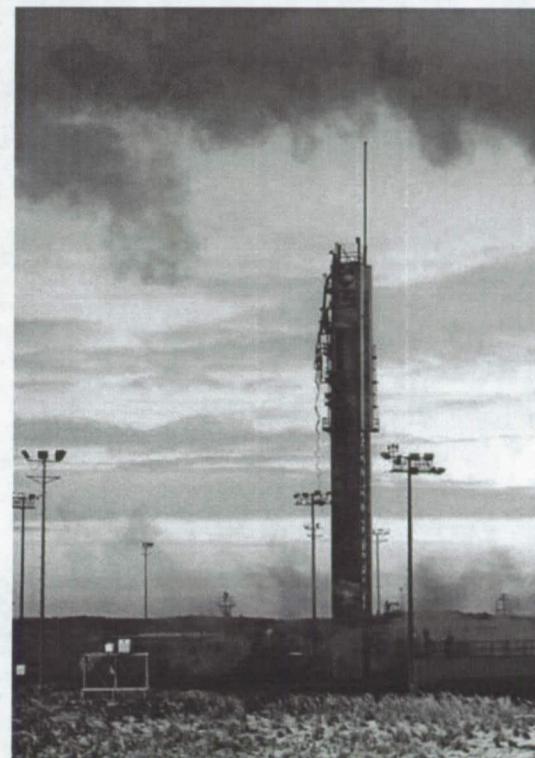


- NASA facilities
- Space Launch Complex 2
 - Safety control authority inside the security fence line
 - Each facility gets inspected at least once annually
 - Responsible for discrepancies
 - Review design modifications/plans

INSTITUTIONAL SAFETY



- Fire suppression
- Ordnance
- Cranes
- Confined space
- Seismic



INSTITUTIONAL SAFETY



- Variances
- Voluntary Protection Program
- OSHA Log
- Government Industry Data Exchange Program (GIDEP)